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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,916	08/27/2001	Xiaohui Wang	4956-4	4058

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EXAMINER

KOPEC, MARK T

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,916

Applicant(s)

WANG ET AL.

Examiner

Mark Kopec

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 2-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

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Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claim 1, drawn to a composition, classified in class 252, subclass 62.63.
- II. Claims 2-5, drawn to method(s) of making, classified in class 423, subclass 138+.

The inventions are distinct, each from the other because of the following reasons:

Inventions of Group II and Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed may be made by a materially different process such as utilization of different organometallic precursors or heating profiles.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and recognized divergent subject

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matter, and because the searches required for these distinct groups are not coextensive, restriction for examination purposes as indicated is proper.

During a telephone conversation with Yunling Ren on 11/11/03 a provisional election was made with traverse to prosecute the invention of Group I, claim 1. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2-5 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim 1 is objected to because of the following informalities: typographical errors appear at lines 4 (chemical formula), 6, 8 and 10 (subscript ranges). Appropriate correction is required.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. 102(B)/(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either Zhang et al (Study of low-temperature sintering Z-type hexaferrites), CN 1208020 or JP 09167703.

Please note that full English language translations of these references will be provided to applicant as soon as possible.

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Applicant cannot rely upon the foreign priority papers because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Zhang et al disclose compositions of $\text{Ba}_3\text{Co}_{2-x-y}\text{Zn}_x\text{Cu}_y\text{Fe}_{23-\delta}$ Z-type hexaferrites. By modifying with CuO, ZnO and doping with suitable amt. of Bi_2O_3 , low-temp. sintered Z-type hexaferrites with excellent magnetic properties can be obtained. The stability range of sintering temp. of this kind of ferrites is narrow, only between 840-950.degree., but its sintering properties, such as porosity, d. and grain size et al. are improved. Micro-structural and morphol. anal. were carried out by XRD and SEM (Abstract).

CN '020 discloses low-temp. sintered planar hexagonal ferrite $\text{Ba}_3(\text{Co}_{2-x-y}\text{Zn}_x\text{Cu}_y)\text{Fe}_{24-\delta}$ where $0.1 \leq x \leq 1$, $0.1 \leq y \leq 0.8$, $0.1 \leq \delta \leq 2$ is manufactured by modification of pure Co_2Z compd. such as $\text{Ba}_3\text{Co}_2\text{Fe}_{24}\text{O}_{41}$ with CuO, and/or mixture of CuO and ZnO. The process comprises mixing anal.-grade Fe_2O_3 , Co_2O_3 , BaCO_3 , CuO and ZnO, ball-milling the mixture in ethanol for 12-24 h and sieving to <60-120 mesh, heating the mixture to 1000-1200.degree. at a heating rate of 2-10 .degree.C/min and sintering for 2-5 h to obtain pre-sintered powder, ball-milling the sintered powder in the presence of 0-4% Bi_2O_3 or V2O5 for

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24-72 h; drying and adding 4-7% PVA soln. 6-10%; sieving to <60-120 mesh, granulating and molding, and heating to 800-950.degree. at 2-10 .degree.C/min and sintering for 4-8 h. The ferrites having the formula of $\text{Ba}_3\text{Co}_{1.8}\text{Cu}_{0.2}\text{Fe}_{23.6}\text{O}_{41}$, $\text{Ba}_3\text{Co}_{1.4}\text{Zn}_{0.4}\text{Cu}_{0.2}\text{Fe}_{23.6}\text{O}_{41}$, or $\text{Ba}_3\text{Co}_{1.2}\text{Zn}_{0.4}\text{Cu}_{0.4}\text{Fe}_{23.6}\text{O}_{41}$ are manufactured (Abstract).

In JP '703 the material, a main magnetic phase is a hexagonal ferrite contg. .gtoreq.1 alk. earth metal, Fe, O, and Pb or Cu. The material may contain 0-10 (.noteq.0) wt.% V_2O_5 , CuO , Bi_2O_3 , MoO_3 , WO_3 , and/or PbO as a sub-component. In the material, the main phase may be a hexagonal ferrite contg. .gtoreq.1 alk. Earth metal, Fe, and O. The circuit component using the material is also claimed. The ferrite can be sintered at low temp (Abstract).

The references specifically disclose the claimed Z-type planar hexaferrite and a minor amount of sintering aid.

In the alternative that any minor modifications are necessary to meet the claimed limitations, such as variation on percentages/ratios of major component to sintering aid, such modifications are well within the purview of the skilled artisan.

In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

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Applicant is reminded that any evidence to be presented in accordance with 37 C.F.R. 1.131 or 1.132 should be submitted before final rejection in order to be considered timely.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Kopec whose telephone number is 703 308-1088. The examiner can normally be reached on Monday - Thursday from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 703 308-4708. The fax phone number for the organization where this application or proceeding is assigned is 703 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.



Mark Kopec
Primary Examiner
Art Unit 1751

MK
November 12, 2003